

ABSTRACT

1 A method is disclosed for processing all types of received, interfering radio frequency
2 signals corrupted by noise to extract the individual signals without having any a priori
3 knowledge about them. Received signals are converted for eigenspace processing and are
4 subjected to repeated non-linear time domain and fast Fourier transform frequency domain
5 processing that calculates eigenstream beam forming weights U . By performing calculations
6 in eigenspace, the number of independent weights U that must be calculated is generally
7 reduced, minimizing calculating time. Once the weights U have been calculated in
8 eigenspace they are transformed into antenna beam forming weights W that are used to
9 extract the individual signals and to determine the angle of arrival of each of the individual
10 signals. Further time is saved because the weights W do not have to be updated for every
11 time slice of the received signals.
